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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/531,649 | 10/11/2005 | David Wilson | 186555/US - 47623-00002 | 1539 |

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| EXAMINER |
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MCGUTHRY BANKS, TIMA MICHELE

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| ART UNIT | PAPER NUMBER |
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1793

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| MAIL DATE | DELIVERY MODE |
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08/11/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|-------------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/531,649 | Applicant(s) WILSON ET AL. | |
| | Examiner TIMA M. MCGUTHRY-BANKS | Art Unit 1793 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8,10-20 and 22-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 33 is/are allowed.
- 6) ☐ Claim(s) 1-4,6-8,10-20 and 22-31 is/are rejected.
- 7) ☒ Claim(s) 32 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 1793

DETAILED ACTION

Status of Claims

Claims 1 and 17 are currently amended, Claims 2-4, 6-8, 10-16, 18-20 and 22-33 are as previously presented, and Claims 5, 9 and 21 are cancelled.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/13/2009 has been entered.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 102

Claims 17-20 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Stift (US 4,384,886).

Stift is applied as discussed in the office action mailed 2/11/2009.

Art Unit: 1793

Claim Rejections - 35 USC § 103

Claims 1-4, 6-8, 10, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (US 5,843,204) in view of Matsuoka et al (US 5,139,567).

Ishikawa et al in view of Matusoka et al is applied as discussed in the office action mailed 2/11/2009.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al in view of Matusoka et al as applied to claim 1 above, and further in view of Wetzel (US 3,547,417) or Wildman (US 2,014,873).

Ishikawa et al in view of Matusoka et al and Wetzel or Wildman is applied as discussed in the office action mailed 2/11/2009.

Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al in view of Matusoka et al as applied to claim 1 above, and further in view of Yasukawa et al (US 4,525,208).

Ishikawa et al in view of Matusoka et al and Yasukawa et al is applied as discussed in the office action mailed 2/11/2009.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al in view of Matusoka et al and Yasukawa et al as applied to claims 1 and 13 above, and further in view of Freeman (US 2,855,290).

Art Unit: 1793

Ishikawa et al in view of Matusoka et al, Yasukawa et al and Freeman are applied as discussed in the office action mailed 2/11/2009.

Claims 22-25 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stift as applied to claim 17 above, and further in view of Stockinger et al (US 6,264,725).

Stift in view of Stockinger et al is applied as discussed in the office action mailed 2/11/2009.

Claims 23-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stift as applied to claim 17 above, and further in view of Gordon et al (US 6,875,251 B2).

Stift in view of Gordon et al is applied as discussed in the office action mailed 2/11/2009.

Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stift in view of Stockinger et al or Gordon et al as applied to claims 17 and 27 above, and further in view of Cattelain (US 3,592,631).

Stift in view of Stockinger et al or Gordon et al further in view of Cattelain is applied as discussed in the office action mailed 2/11/2009.

Allowable Subject Matter

Claim 33 is allowed.

Art Unit: 1793

Claim 32 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Stift in view of Stockinger et al or Gordon et al does not disclose or suggest one or more columns provided within the first furnace chamber, each column comprising a plurality of vertically orientated, vertically spaced tubes, wherein the cross-sectional area of each tube is smaller than that of an adjacent, lower tube, and wherein the ends of adjacent tubes are arranged so as to provide an annular space there between as in Claims 32 and 33.

Response to Arguments

The rejections over Baily under 35 U.S.C. 102(b) of Claims 17-20 and 27 and over Baily in view of Cattelain under 35 U.S.C. 103(a) of Claims 28-31 have been withdrawn based on the amendment to the claims. Baily does not teach an outlet from the first furnace chamber as claimed.

Applicant argues that Stift teaches only one furnace chamber. However, applicant gives no structural limitation to the definition of a chamber. The two zones in Stift operate separately; therefore, the zones read on the claimed limitation of chambers. That zinc is collected from both zones (as shown by the arrows) does not preclude Stift from reading on the claimed invention. Applicant does not provide evidence that "the vaporizing zinc would be collected in Stift from the Examiner's equated 'second furnace chamber', not from the first furnace chamber as recited in amended independent claim 17 [emphasis added]." Regarding the argument that Stift does not

Art Unit: 1793

heat the material to a temperature sufficient to effect melting of the iron and lead there, applicant does not provide any means plus function language to the second furnace chamber. Regarding the argument that Stift fails to disclose a third arrangement configured to separately recover the molten iron and separately recover the molten iron therefrom, applicant does not provide any means plus function language to the third arrangement. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. Additionally, the manner of operating the device does not differentiate apparatus claims from the prior art. See MPEP § 2114.

Applicant further asserts that Matsuoka does not teach or suggest separate recovery of molten iron and molten lead. The examiner refers the applicant to lines 17-20 of the abstract. In response to applicant's arguments against the references individually, specifically that Matsuoka teaches a different zinc recovery process from Ishikawa or the claimed invention, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Matsuoka et al was cited to show that separate recovery of lead and iron is known in the art.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMA M. MCGUTHRY-BANKS whose telephone number is (571)272-2744. The examiner can normally be reached on M-F 8:00 am - 4:30 pm.

Art Unit: 1793

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/George Wyszomierski/
Primary Examiner
Art Unit 1793

/T. M. M./
Examiner, Art Unit 1793
11 August 2009